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RIGHT HEMISPHERICITY, LOW SELF-ESTEEM, AND UNUSUAL EXPERIENCES: A RESPONSE TO VINGIANO[1]

M. A. PERSINGER

Laurentian University

Summary.—Vingiano's (1992) challenge concerning the relationship between right hemisphericity, low self-esteem, mystical experiences, and religiosity can be clarified by the concept of vectorial hemisphericity. Ontogenetic intrusions of right-hemispheric processes into the left hemispheric sense of self should be experienced most frequently as an apprehensive "presence" that results in lower self-esteem. Because transient above-normal left-hemispheric activity enhances positive affect and the sense of self, concurrent right-hemispheric intrusions are experienced as mystical experiences. Religiosity would be the consequence of persistent above-normal left-temporofrontal activation that encourages the delusion. Hence, extreme conditions, such as left lateralized temporal-lobe epileptic foci, encourage both mystical and religious experiences.

Persinger and Makarec (9) reported that people who displayed greater right hemisphericity, as defined by the Hemispheric Questionnaire (14), also exhibited lower self-esteem. Self-esteem, which we consider the major affective component of the self-concept, would be affected by a cumulative history of more frequent intrusions of right (negatively affective) hemispheric processes into the predominantly left hemispheric and linguistic definitions of self (4). The results of both Vingiano's (15) and our group's research (9, 10, 11, 12) support this possibility.

Vingiano (15) argues, based primarily upon Bear and Fedio's (2) work with temporal-lobe epileptic patients, that "religiosity and mystical experiences" are associated with left hemisphericity. The conflict can be resolved by the model of vectorial hemisphericity (8) in which it is assumed that the metabolism of each hemisphere can be below normal, normal, or above normal. The phenomenological characteristics of ongoing experiences are determined by (a) the absolute and relative activation between the two hemispheres at the time of interhemispheric matching, (b) the areas within the hemispheres that are prone to intercalation, and (c) the phasic or tonic nature of the coherence.

Intrusions from the right hemisphere would be associated with characteristic negative affect. The effect would be greatest in less lateralized brains, such as normal women, left-handed men (5), or language-learning-disabled children, because the self-concept is more vulnerable. Intrusions from right mesiobasal (amygdala-hippocampus) temporal-lobe stimulations would

[1]Please send correspondence to Dr. M. A. Persinger, Behavioral Neuroscience Laboratory, Department of Psychology, Laurentian University, Sudbury, Ontario, Canada P3E 2C6.

be associated with fear; these experiences have been induced experimentally (13). Intrusions from both right mesiobasal structures and the right temporoparietal cortices would be associated with an apprehensive sensed presence (7).

Intrusions from the left temporoparietal region into the right homologous region and then back into the left hemisphere (an example of Edelman's "re-entrant pathways") would evoke a brief interhemispheric intercalation that would be associated with the awareness of a double self and body image, such as out-of-body experiences and its variants, e.g., astral traveling, mental diplopia; this prediction has been supported by Lavallée and Persinger (6). The frequent out-of-body experiences reported by students while listening to the Hemisync tape (Monroe Institute, Route 1, Box 175, Faber, Virginia 22938) would be predicted by the interhemispheric intercalation due to elevation of left-hemispheric activity during binaural tonal synchronization.

Maintained, mild, above-normal, left hemisphericity is associated with a more integrated sense of self, egocentricity, preference for linguistic (logical) solutions, and traditional religious beliefs. This pattern has been supported by the positive association between traditional religious beliefs and left hemisphericity (6), between ethnocentrism (the generalized extension of egocentrism), authoritarianism, and strong religious beliefs (1), and between religious thought and the historical preoccupation with precise linguistic arguments and written records (10). The potency of this association between sense of self, its survival, and religiosity is evident even in the late twentieth century when mutual destruction of neighbours is determined by their similarity of religious beliefs.

In extreme populations, such as temporal-lobe epileptics with left lateralized foci, both the elevation of left-hemispheric and right-hemispheric intrusions would be encouraged. Consequently they would be primarily affectively positive and integrated into the elevated and expanded self-concept, e.g., personal destiny or "being chosen." Persistent linguistic processing would encourage religiosity, and concurrent involvement of prefrontal dysfunction would increase the likelihood of a delusional disorder (3). As reported by Bear and Fedio (2), left-hemispheric temporal-lobe epileptics should report, over behavioral time, both mystical and religious experiences. If there are degenerative left-hemispheric processes at the synaptic (diffuse) level, then formal thought disorders would emerge where the boundaries between the sense of self and the nonself are confused and the conclusion is made that the person is the universe, the god, or the creator.

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